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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO.       |
|---|-------------|----------------------|-----------------------------|------------------------|
| 10/510,441  | 10/07/2004  | Derek Alan Colman    | 608-441                     | 1505                   |
| 23117 7590 12/13/2007<br>NIXON & VANDERHYE, PC<br>901 NORTH GLEBE ROAD, 11TH FLOOR<br>ARLINGTON, VA 22203 |             |                      | EXAMINER<br>LAUX, JESSICA L |                        |
|   |             |                      | ART UNIT<br>3635            | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>12/13/2007     | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/510,441

Applicant(s)

COLMAN ET AL.

Examiner

Jessica Laux

Art Unit

3635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments, see remarks, filed 09/21/2007, with respect to the rejection(s) of claim(s) 11-23 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in and presented below.

### ***Claim Objections***

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 20 contains the same limitations as in claim 16 from which it depends.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is indefinite because in section (a) the claim requires "strands of plate segments... terminating only at the periphery of the grid" and than later in section (b) requires "each plate segment being joined at one end to a junction... an at the other end either being joined... or terminating at or near the

periphery", resulting in confusion regarding the ends of the segments and whether they termination only at the periphery or not.

Further the claim is indefinite as the term "segment(s) or plate segment(s) is used throughout the claim and it is unclear whether the segment(s) is the network as in section (a) or the internal plate branch as in section (b) of the claim. Appropriate correction and clarification is required.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 11-14, 16-18, 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by B Haskell (3070198).**

Regarding claim 11 (as best understood): Haskell discloses a grid having the form of a web of vertically disposed plates said web of plates comprising

(a) a network of strands of plate segments (14) connected by junctions, said strands terminating only at the periphery of the grid, and

(b) one or more internal plate branches (forming internal cells 10, 11, 31), each plate segment being joined at one end to a junction with at least two other plate segments and at the other end either being joined to a junction with at least two other plate segments or terminating at or near the periphery of the grid (as best understood these features can be seen in figure 1 where internal cells meet at a juncture or form the periphery), said internal plate branch comprising a plate having a free end within the grid (the end at the internal juncture of cell 31) and being joined at one end thereof to a

segment or to another branch (where any of the segments of cell 31 join another cell), wherein in horizontal cross-section through the grid each segment has at least two angular portions, at least two curved portions or at least two angular and curved portions, which portions alternate in direction (where Haskell discloses at least two angular portions).

Regarding claim 12: A grid according to claim 11 wherein the alternation in direction of the angular or curved portions is of equal magnitude or of differing magnitude (as seen in figure 1).

Regarding claim 13: A grid according to claim 11 wherein the grid is formed from vertical plates wherein each vertical plate has a high resistance to deformation in a direction parallel to its vertical plane and is relatively easily deformed in the horizontal plane (Col. 1, lines 41-41).

Regarding claims 14, 22: A grid according to claim 11 wherein the grid is free from a solid boundary perimeter plate (as seen in figure 1).

Regarding claims 16, 20: Haskell discloses a grid having the form of a web of vertically disposed interconnected plates or strips (14), said web having in horizontal cross-section a repeating pattern (as seen in figure 1), said pattern comprising one or more series of unit cells (31), each cell having substantially polygonal shape wherein each polygon contains at least 8 sides, at least two internal angles above 180° (the interior center angles of cell 31) and at least four internal angles below 180° (the top or bottom interior angles).

Regarding claim 17: A grid according to claim 16 wherein one or more linear or branched internal projections (any cell 10 or 11) is provided on one or more sides of a polygon or at the junction of two sides of a polygon, wherein the said projections do not bridge any polygon.

Regarding claim 18: A grid according to claim 16 wherein the grid is formed from vertical plates wherein each vertical plate has a high resistance to deformation in a direction parallel to its vertical plane and is relatively easily deformed in the horizontal plane (Col. 1, lines 40).

Regarding claim 21: A grid according to claim 20 wherein the geometric shape of the polygon is superimposed on itself when rotated in the horizontal plane through 180° (as seen in the drawing).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 15, 19, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over B Haskell (3070198).**

Regarding claims 15 and 23: Haskell discloses the grid according to claims 11 or 13, but does not expressly disclose that the grid is formed from a metal. But Haskell does disclose that the strands be formed of any relatively thin walled structure capable of structural support, Col. 1, lines 9-10 and 40). It is notoriously common and well

known in the art to use thin gage sheet metal for expanding honeycomb structures used for structural purposes. Therefore it would have been common to one of ordinary skill in the art to make the grid of Haskell from sheet metal because it is easily worked with and obtained.

Regarding claim 19: Haskell discloses the grid according to claim 16 above, but does not expressly disclose that the ratio of the height of the web to the average thickness of the vertical plates forming the web lies in the range 100:1 to 2:1. However, this is such a broad range and applicant has not indicated criticality, therefore it appears to be a mere matter of obvious design choice to make the height to thickness ratio any ratio depending on the specific application the grid is used for and to what load it will be subject. Furthermore it is noted that it would have been Obvious to one of ordinary skill in the art to modify the grid of Haskell to have a height/thickness ratio in the claimed range, as the range is so large it encompasses most commonly used ranges in design specifications.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica Laux whose telephone number is 571-272-8228. The examiner can normally be reached on Monday thru Thursday, 9:00am to 5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JL  
11/30/2007

/J. CHAPMAN/  
PRIMARY EXAMINER